

[RANGE GEARBOX]

Abstract of Disclosure

Range gearbox for motor vehicles adapted to be connected to the output side of a basic gearbox. The range gearbox includes a planetary gear (7), enclosed in a housing (3), with a sun wheel (9) arranged on an input shaft (5) and engaged with planet wheels (10). The planet wheels are carried by a planet wheel carrier (12) that is connected to an output shaft (8) and engageable with an axially displaceable ring gear (14). The ring gear (14) is selectively lockable, via a coupling means, in a first coupling position in which the gear (14) is non-rotatably connected to the housing in order to establish gearing between the input shaft and the output shaft, and in a second coupling position in which the gear (14) is non-rotatably connected to one of the input shaft and the output shaft in order to establish direct drive therebetween. Interacting tooth faces of the planetary gear (7) are angled in such a manner in relation to the longitudinal axis of the input shaft (5) and the output shaft (8) that an axial force arises on the ring gear (14) from gear speed changes during synchronizing, and this force, at least on shifting to the low range position, tends to move the ring gear in the same direction as an external shifting force. The ring gear (14) is non-rotatably connected to a coupling sleeve (18) that is arranged concentrically with the output shaft and serves as a ring gear carrier.

Figures